May 27, 1930. H. E. WHITE 1,760,331

BUILDING

Filed Oct. 28, 1926

Fig. 1.

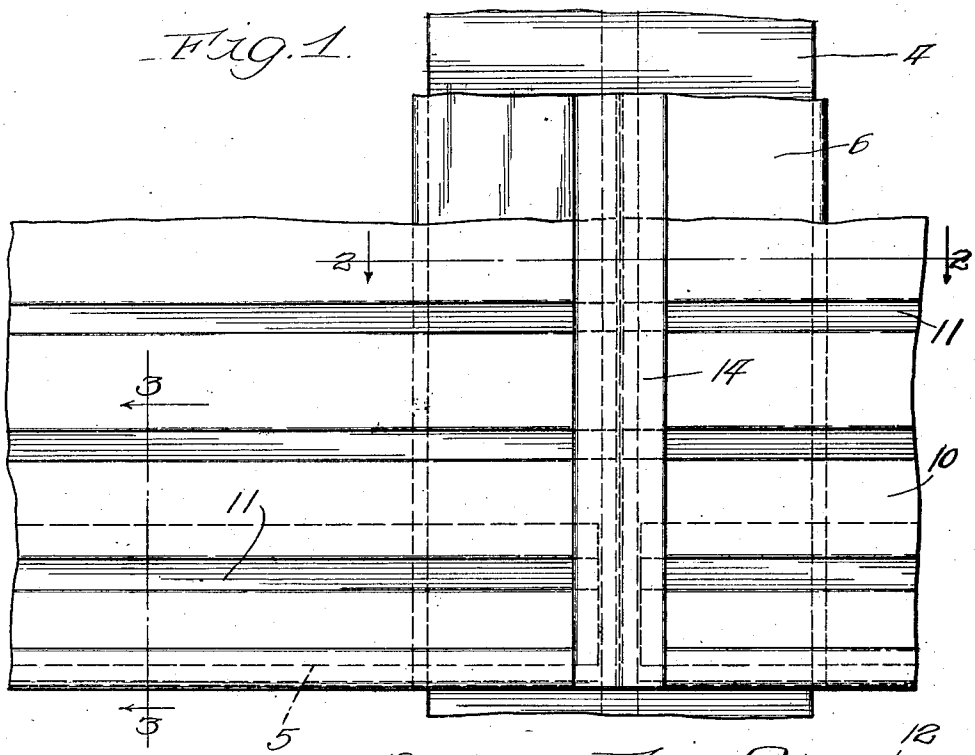


Fig. 2.

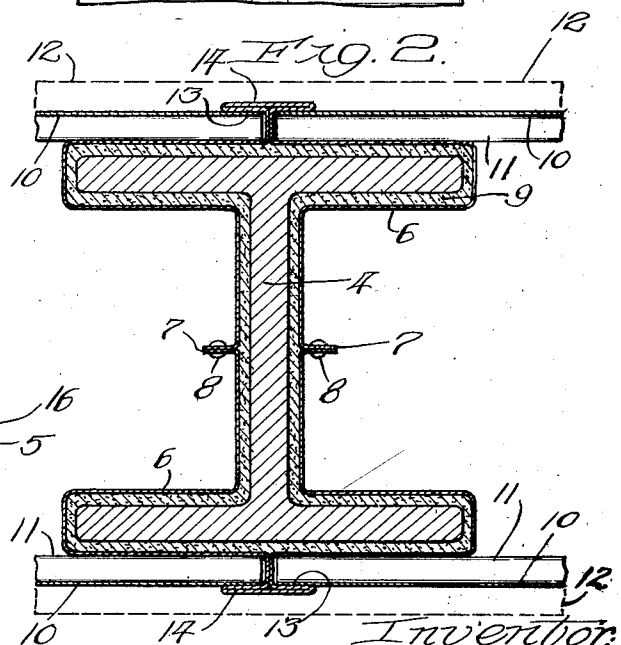
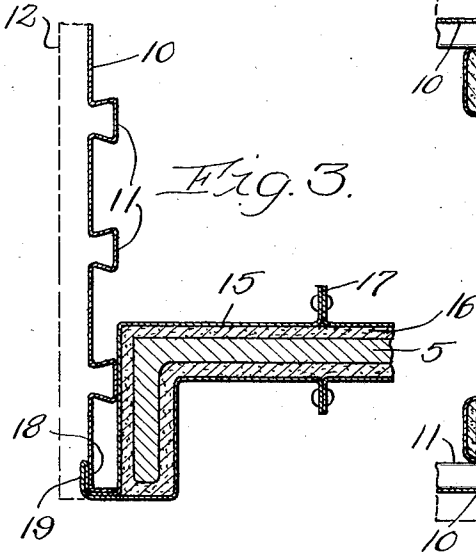


Fig. 3.



Inventor:
Halbert E. White,
By Glenn S. Noble Atty.

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UNITED STATES PATENT OFFICE

HALBERT E. WHITE, OF TAMPA, FLORIDA

BUILDING

Application filed October 28, 1926. Serial No. 144,788.

This invention relates to the art of building and more particularly to constructional features in connection with steel frame buildings. In buildings of this character, the skeleton or frame work usually consists in general of posts or columns and horizontal members which are secured to the columns in any desired well-known manner, as by riveting or welding. Such structural members are apt to warp or bend when subjected to heat and it is therefore necessary or desirable to protect them or cover them with insulating material. The present invention relates to means for insulating or protecting such structural beams and columns and also to a novel and improved wall structure and means for supporting sheathing or securing it to the frame members. My improved wall structure, including a novel form of sheet metal sheathing, is more particularly shown and claimed in my copending application for building material, in which it is fully claimed and for such reason I do not specifically claim this material in the present application.

The objects of this invention are to provide new and useful improvements in the art of building; to provide means for encasing and protecting metal building members such as columns or beams; to provide means for supporting sheathing or wall members and securing the same to metal building members; and to provide such other novel features and details of construction as will be described more fully hereinafter and as shown in the accompanying drawings. In these drawings;

Figure 1 is a side view of a portion of a building showing my improved construction;

Figure 2 is a horizontal sectional view taken on the line 2—2 of Figure 1; and

Figure 3 is a sectional view taken on the line 3—3 of Figure 1.

The column 4, as shown in these drawings, is in the form of an I-beam but is illustrative of any type used in building construction. These columns are held together by means of horizontal beams such as the channel beam 5 which is also merely illustrative of the beams used in the skeleton steel work. In order to protect such members, I provide casings or covers formed of sheet metal, the walls of which are spaced apart from the columns or structural members a sufficient distance to permit placing concrete, cement, or other suitable non-conducting or protective material between the casing and the member. The casing 6 for the column 4 is made in the form of two oppositely disposed T's the connecting portions of which are provided with flanges 7 which are secured together by rivets or bolts 8. This casing is made of any suitable sheet metal and preferably of a non-corrosive character, such as galvanized iron or the like. The casing may be slipped over the ends of the columns before the columns are fastened together, but is preferably made of sufficiently light material so that the sections may be sprung open a sufficient distance so that they can be readily placed over the sides of the columns and then the two sections riveted or fastened together. Concrete, cement, or the like, as shown at 9, is then placed between the casing and the column so that the column is not only provided with an insulating covering to protect it against heat but is also encased in a practically air-tight closure which protects it against air, moisture, or the like, and prevents the columns from rusting.

The wall structure preferably comprises sheet metal sheathing or siding 10 having dovetailed ribs 11, as shown in my copending application, to which stucco, plaster, concrete, or the like is applied, as indicated at 12. In order to secure the ends of the siding or sheathing to the columns, the casing members 6 are provided with integrally formed channels 13 as shown particularly in Figures 1 and 2. These channels are formed by folding the material of the casing so as to make substantially T-shaped longitudinal projections on the sides of the casing. The channels are of proper width so that the ends of the sheathing 11 will fit closely therein, and after the sheathing is thus secured in place, the covering material, such as the plaster or stucco is applied and will cover the outer portions 14 of the channels, as clearly shown in Figure 2.

The horizontal beams or connecting mem-

bers 5 are also provided with suitably formed sheet metal casings 15 and insulating covering 16. When these members are made of channel irons, the casings are preferably made in two sections of L-form which are fitted over the beam and riveted together, as shown at 17. In order to support the sheathing 10, the sheet metal casing 15 has an integrally formed horizontal channel 18 for receiving the lower edge of the sheathing, as clearly shown in Figure 3. This channel is formed by folding the sheet metal so as to make a subtsantially L-formed projection 19 along the lower edge of the casing, and the outer portion of this projection will be covered by cement or stucco 12 when the wall is completed.

From this description, it will be seen that I provide a form of building construction which is made entirely of fire-proof materials and provide means whereby a skeleton steel structure may be readily encased and protected, and the siding or wall members conveniently and securely attached thereto.

It will be apparent that different forms of casings or fastening members will be necessary for different forms of beams or structural members, and in some instances the concrete or insulating material may be omitted, and the fastening members secured directly to the structural members and therefore I do not wish to be limited to the particular forms or details herein shown and described, except as specified in the following claims, in which I claim:

1. Building construction comprising a frame member, a sheet metal casing fitting over said frame member, insulating material between the frame member and the casing, said casing having integrally formed projections, and sheathing engaging with and held in position by said projections.

2. The combination with an I-beam column, of a sheet metal casing fitting over the column and conforming thereto, said casing being formed of two parts which are fastened together and having integrally formed channels, metallic sheathing engaging with said channels, and a covering of plaster or the like over the sheathing and outwardly projecting portions of the channel.

3. The combination with a building frame member, of a casing supported thereby and formed of sections of sheet metal one of said sections having an integrally formed channel for supporting sheathing, substantially as described.

4. The combination of a structural building member, a sheet metal casing fitting over said member and secured thereto, and having an integrally formed channel, non-conducting material filling the space between said member and the casing sheathing comprising grooved sheet metal carried in said channel, and plaster or the like covering the sheathing and the projecting portion of the channel.

5. A casing of the character set forth for enclosing an I-beam, comprising two sections, each of said sections being formed from sheet metal with a main T-shaped portion adapted to enclose one-half of the I-beam, and an integrally formed smaller T-shaped portion projecting from the main portion and providing channels for receiving sheathing or the like.

6. A casing for a structural building member, formed of a strip of metal, said strip being folded longitudinally to provide one or more channels for receiving wall board or the like, the sides of the strip being bent longitudinally to conform to the shape of the member to be enclosed, substantially as described.

7. A casing for an I-beam, comprising two strips of sheet metal, each of said strips being bent longitudinally to conform to the shape of one-half of the I-beam and having central outwardly projecting flanges, each of said strips also having an outwardly projecting integrally formed T-shaped portion along the head thereof, and means for fastening the flanges together.

HALBERT E. WHITE.